

Cherokee County
KS D980741862

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**Preliminary Assessment
of the
Baxter Springs Mine/Smelter
Baxter Springs, Kansas**

**Site Identification Number:
KS D984966945**



**Kansas Department of Health and Environment
Bureau of Environmental Remediation
Technical Services Section**

May 29, 1989

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Preliminary Assessment

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SECTION 1: INTRODUCTION

1.1 Problem Statement

The site identified as the Baxter Springs Mine/Smelter (KS D984966945) operated from 1930 until 1959. Mining operations left large quantities of tailings, open mine shafts and the potential for uncontrolled subsidence on the surface of the site. An alleged smelter operation at the site also may have contributed to potential contamination.

The Baxter Springs Mine/Smelter was originally identified in 1981 when a "Potential Hazardous Waste Site Notification" form was submitted by the owner/operator of the site. The site became part of the Kansas Department of Health and Environment's (KDHE)' 201 list of potential problem sites in Kansas, developed in 1984 by the Bureau of Waste Management. The site was originally listed as Lead/Zinc Mine and Smelter. For additional information refer to Appendix 1, "Hazardous Waste Potential Problem Site Summary."

Information obtained from personnel at the Environmental Protection Agency's (EPA) Region VII office indicates that the Baxter Springs Mine/Smelter site is part of the of the Cherokee County Superfund site, KS D980741862 (Appendix 2). Even though the Baxter Springs Mine/Smelter site is part of a Superfund site, it was recommended that the scheduled preliminary assessment be completed to provide additional data for the investigation of the Cherokee County Superfund site (Baxter Springs sub-site).

¹ The Bureau of Waste Management developed the 201 potential problem sites list in January 1984. The list included sites at which hazardous waste was handled as well as sites that have the potential to contaminate groundwater. The list of sites was developed from several sources, including: Superfund Notification forms (CERCLA 103 (c)), anonymous or identified complaints received by EPA or KDHE, file reviews of existing problems conducted by EPA or KDHE, and the Eckhardt Report listing of problem sites developed by a Congressional Subcommittee.

SECTION 2: SITE INFORMATION

2.1 Location

The Baxter Springs Mine/Smelter is located approximately 1.25 miles west of Baxter Springs, Kansas. The legal description of the facility is the NE quarter of the NE quarter, the South half of the NE quarter, the NE quarter of the SE quarter, and 10 acres of lot 3 of Section 10, Township 35, Range 24 East, Neutral Quadrangle, Cherokee County, Kansas (USGS, 1977). Refer to Figure 2-1 for site location.

2.2 Description

The Baxter Springs Mine/Smelter site covers approximately 182 acres and is included in a larger lead and zinc mining area called the Tri-State Mining District. The area is essentially honeycombed with mines and large piles of tailings. The tailings at the site are currently being used for construction aggregate, highway construction and railroad ballast. No evidence of a smelter operation was identified during the preliminary assessment.

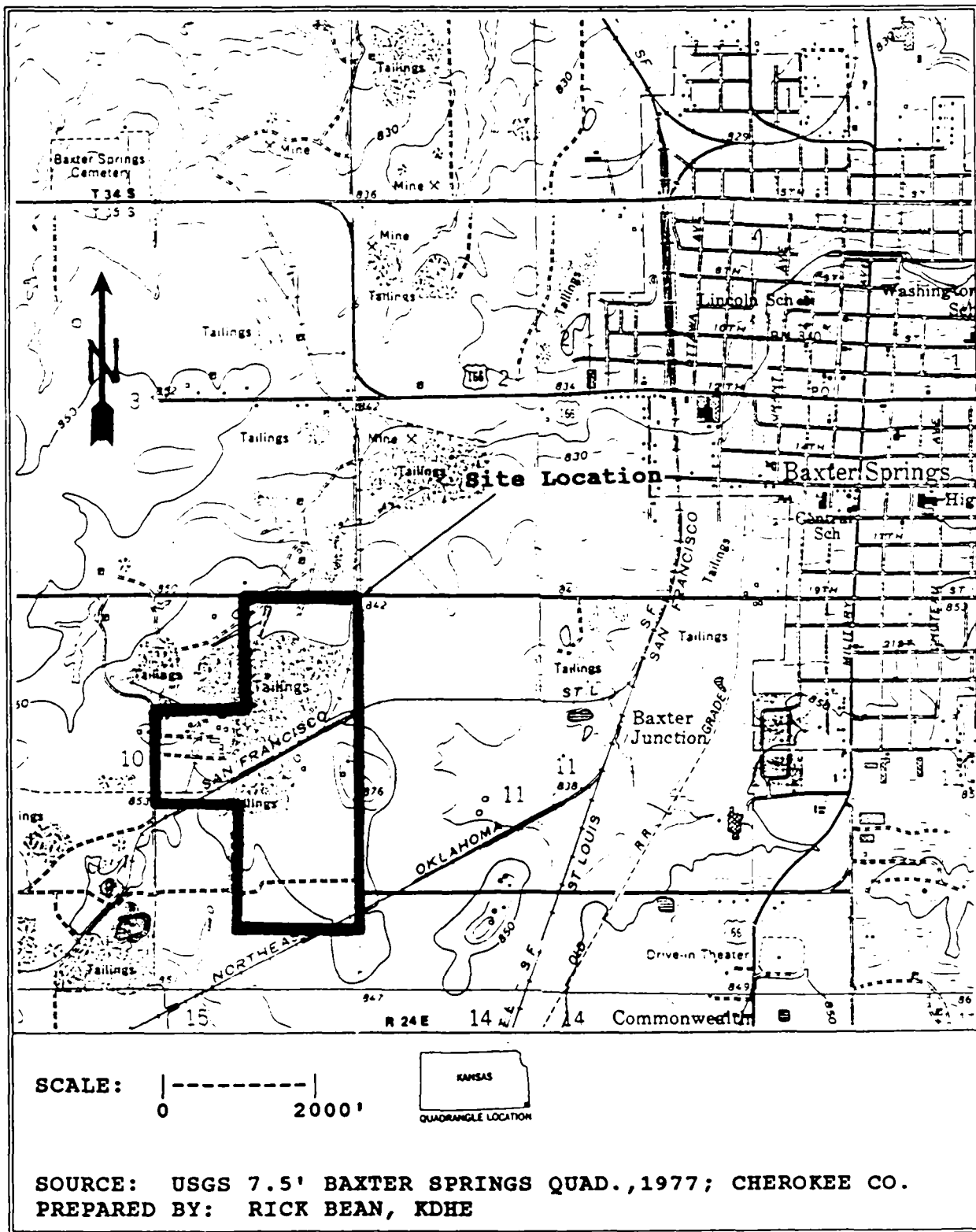
2.3 History

The Tri-State lead and zinc mining region has been one of the world's leading producers of lead and zinc concentrates. As early as 1849 crude smelting operations were underway and lead was being transported to New Orleans. Exploration of the region began generally in Ottawa County, Oklahoma and progressed in a northeasterly direction, extending well into Cherokee County, Kansas. The "site", also referred to as the Ballard property, operated from 1930 to 1959. Ore from the site was sent to the Eagle Picher Company, a lead smelter, north of Galena. The Baxter Springs Mine/Smelter site never operated as a smelter. By the early 1960's a majority of the lead and zinc mining operations in Cherokee County had been discontinued (Appendix 3). In 1981 a Site Notification Form was received by KDHE from Mr. F.R. Baser of N.L. Industries, Inc. identifying the site as a hazardous waste potential problem site. The name listed on the form was Lead/Zinc Mine and Smelter (Appendix 1).

2.4 Potential Sources

Potential contamination sources at the site include surface runoff and drainage from on-site tailing piles and surface drainage to subsurface aquifers through open mine shafts and abandoned wells. All potential contamination at the site appears to be from past mining operations.

FIGURE 2-1
SITE LOCATION



SECTION 3: WASTE DESCRIPTIONS

3.1 Hazardous Substance Characteristics

Samples collected during the investigation of the Cherokee County Superfund site indicate that concentrations of metals are elevated in surface water drainages throughout the county as a result of runoff from mining activity. Elevated metals from mining activity in the area generally include lead, cadmium and zinc.

Two surface water samples and one sediment sample was collected during the preliminary assessment of the Baxter Springs Mine/Smelter site. Sampling locations are shown on Figure 3-1, and analytical data are summarized in Table 3-1. Four metals were detected at significant concentrations in one of the two surface water samples at the site. Analytical results of the downstream sample indicates elevated levels of cadmium 120 ug/l², zinc 19760 ug/l, iron 40590 ug/l and manganese 5050 ug/l. The upstream surface water sample indicates that metals were within the background range for aquatic life (Kansas, Surface Water Quality Standards, Table 3, 1987).

Runoff from galena³ and sphalerite tailing piles can be directly associated with elevated levels of lead, zinc and cadmium in surface water or groundwater.

Heavy metal contamination can enter the environment from the natural weathering of rocks and minerals, pollutant sources such as mining operations, smelter operations, refinery operations, discarded metal-containing products and phosphate fertilizers account for a greater proportion of heavy metal contamination. As a group the heavy metals are relatively immobile and insoluble in the aqueous environment. Sorption by clays and iron oxides generally reduces the aquatic load of heavy metal contamination. Heavy metals present in food or water can accumulate in the tissues of all organisms. Most heavy metals in moderate to high concentrations are toxic to humans and animals.

3.2 Hazardous Substance Quantities

The quantity of potential waste at the site was not determined during the preliminary assessment.

² The units commonly used throughout this report for liquid samples (water, wastewater) are parts per billion abbreviated as ppb or micrograms per liter abbreviated as ug/l. One (1.0) ppb in water is approximately equivalent to detecting one drop of the contaminant in 12,500 gallons of water. The units that are used for solid samples (soil, sediment and waste) are milligrams/kilogram abbreviated as mg/kg or parts per million abbreviated as ppm. One (1.0) mg/kg in a solid is equivalent to detecting one ounce of the contaminant in approximately 31 tons of solid material.

³ Galena (PbS) is a mineral common throughout the Tri-State Mining District from which lead is extracted. Zinc and Cadmium are extracted from sphalerite (ZnS), also common in the area.

Table 3-1

Analytical Data for Heavy Metals

	Map ID Legal Date Media	1 NWNE103524E 5/1/89 SW	2 NENE103524E 5/1/89 SW	3 SESE033524E 5/1/89 SED
Contaminant	KAL			
Iron	0.300	0.270	40.590	NA
Manganese	0.050	0.070	5.050	NA
Arsenic	0.050	ND	ND	14.00
Barium	1.000	0.120	0.020	ND
Cadmium	0.005	0.001	0.120	0.685
Chromium	0.050	ND	ND	44.990
Copper	1.000	ND	0.020	29.980
Lead	0.050	ND	0.029	90.980
Mercury	0.002	ND	ND	ND
Selenium	0.010	0.003	ND	ND
Silver	0.050	0.003	0.003	2.093
Zinc	5.000	0.240	19.760	373.490

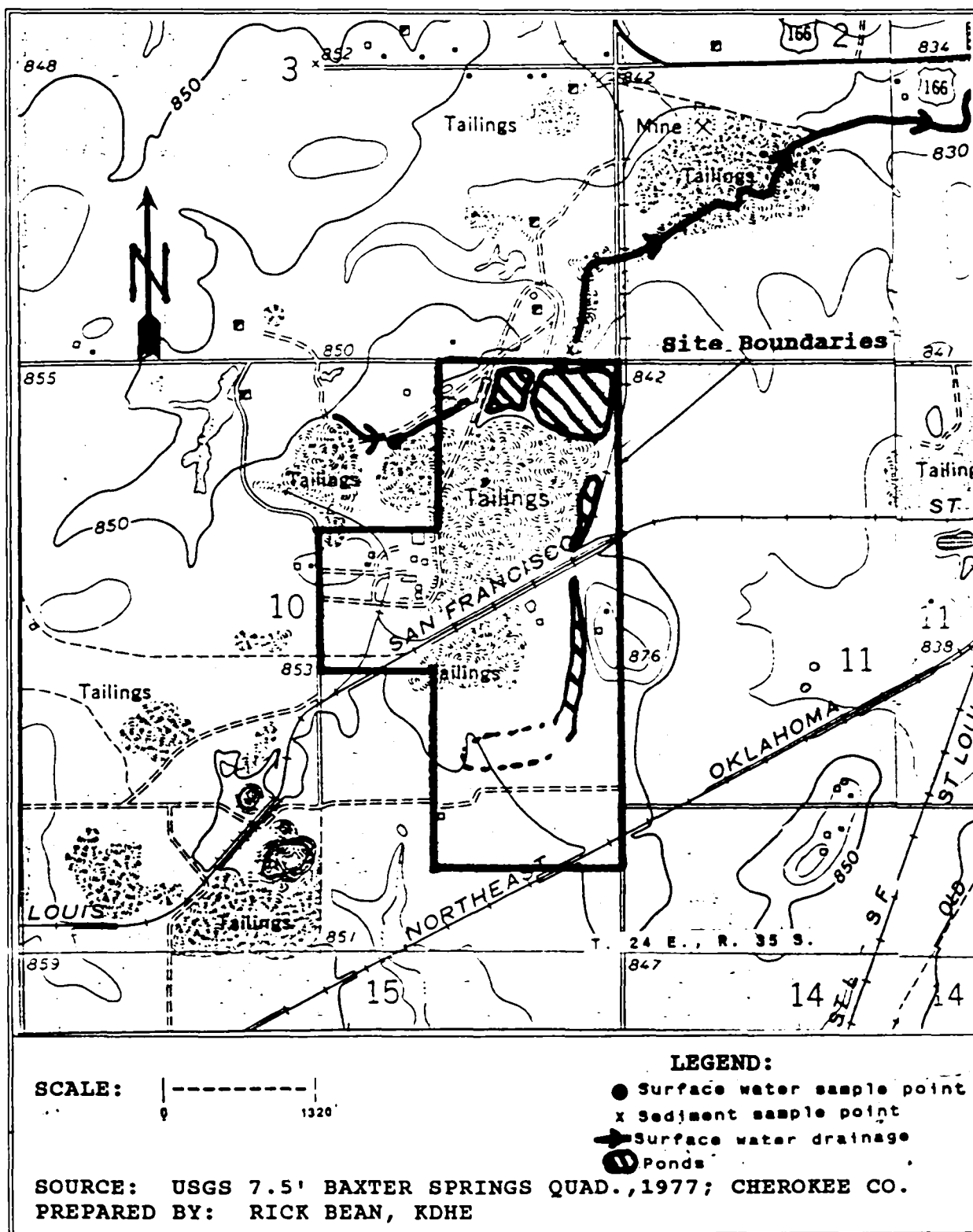
* Units for water samples are in milligrams/liter (mg/l).

* Units for solid samples are in milligrams/kilogram (mg/kg).

Abbreviations

GW -Groundwater
 SW -Surface Water
 KAL -Kansas Action Level
 SED -Sediment
 SL -Soil
 WS -Waste

FIGURE 3-1
SAMPLING LOCATIONS



SECTION 4: PATHWAY CHARACTERISTICS

4.1 Groundwater

There are four aquifers beneath the Baxter Springs Mine/Smelter site including three confined aquifers, the Roubidoux, Jefferson City Dolomite, and Cotter Dolomite Formations and a semi-confined aquifer, the Boone Formation. Figure 4-1 provides a generalized geologic cross section of the area around the site.

The Boone Formation served as a drinking water aquifer until the late 1960's when large-scale mine dewatering operations were initiated. The water quality of the aquifer has deteriorated due to contamination from mining activity. The aquifer currently is not used as a potable water source. The Chattanooga shale acts as a confining layer between the acid waters of the Boone Formation and potable water from lower aquifers.

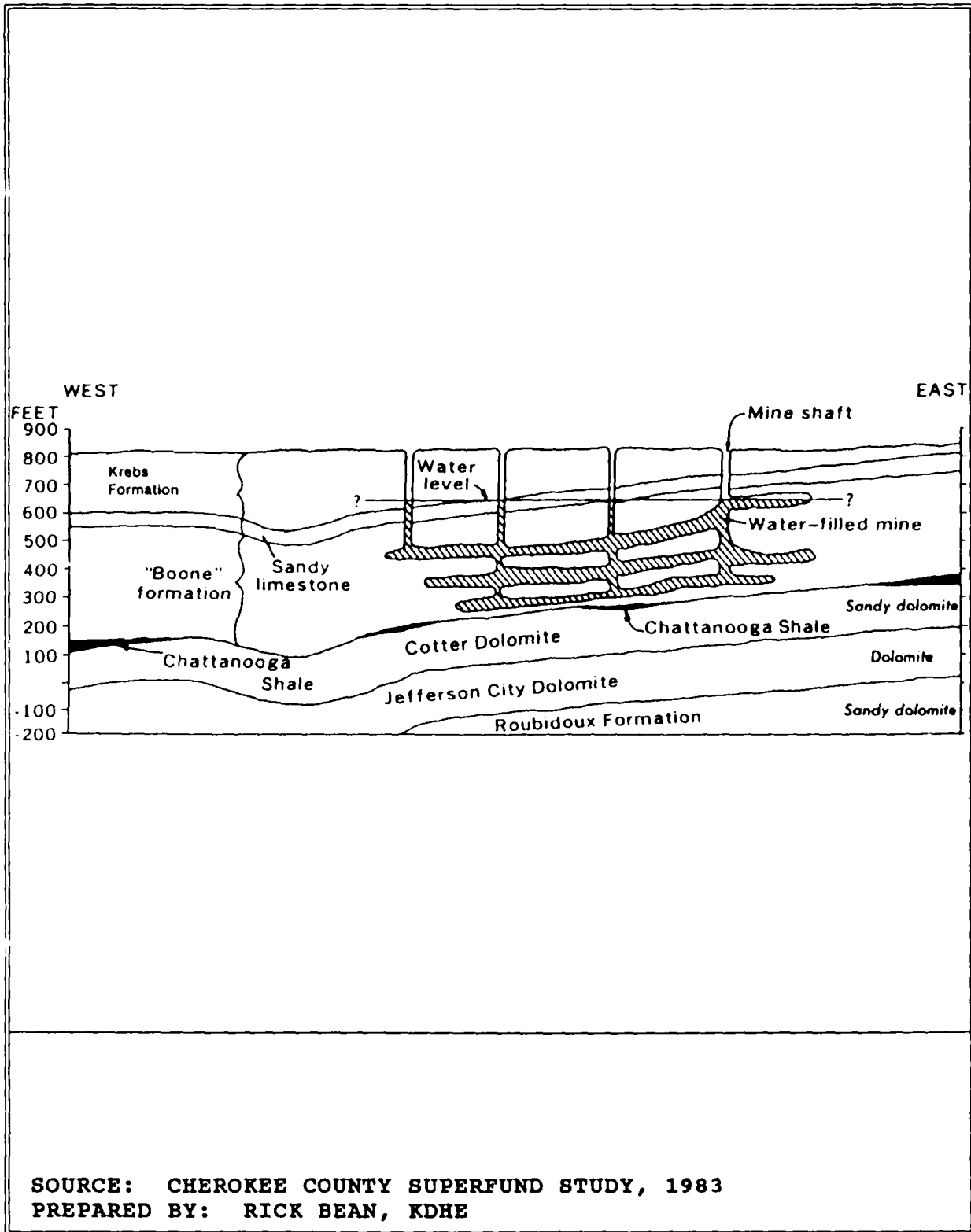
The Roubidoux Formation is the principal confined aquifer utilized for domestic, stock and industrial water supplies within a four mile radius of the site. Where the shale is absent and a downward hydraulic gradient exists, contaminated water from the Boone Formation is free to migrate into the Roubidoux Formation. However, the most likely potential route of contaminant migration is through improperly constructed and abandoned wells. Generally, the Roubidoux is known to produce good quality, calcium-bicarbonate type water outside of mining areas (*Cherokee County Superfund Study*, 1983). Baxter Springs obtains 25% of its drinking water from one public water supply well screened within the Roubidoux Formation. Four additional public water supply wells were plugged because of contamination (*Baxter Springs Water Department*, 1989).

The Jefferson City and Cotter Dolomite Formations are considered as less significant aquifers within the site and are believed to be hydraulically connected with the Roubidoux Formation.

4.2 Surface Water

The quality of surface water in the vicinity of the site has been significantly impaired due to surface seepage and runoff from tailings, and possible acid mine drainage in the area resulting from past lead and zinc mining activities. Surface water from the site generally flows northeastward in an unnamed tributary of the Spring River which transects Baxter Springs and flows approximately two miles to its confluence with the Spring River. The Spring River, which belongs to the Neosho River Basin, generally flows in a southerly direction and is considered as a drinking water source and contact recreational surface water body. (*Kansas, Surface Water Quality Standards, Table 3, 1987.*) The primary source of drinking water (75%) for Baxter Springs is the Spring River. The surface water intake is located upstream of the confluence with the unnamed tributary in SE quarter of the NW quarter of the NE quarter of Section 36, Township 34 South, Range 24 East (*Baxter Springs Water Department*).

**FIGURE 4-1
GENERALIZED GEOLOGIC CROSS SECTION**



4.3 Air

The air pathway was not evaluated during the preliminary assessment.

4.4 Direct Contact

Direct contact with surface water contaminated with heavy metals could pose a potential threat to human populations and sensitive terrestrial environments since drainage from the site transects the city of Baxter Springs and areas designated as critical habitats (*Kansas Department of Wildlife and Parks*).

SECTION 5: TARGETS

5.1 Human

Human targets potentially affected by contamination from the site include the town of Baxter Springs, which has a population of 4773 persons (Bureau of Census, 1980). Drinking water for Baxter Springs is obtained from Spring River (75%) and the groundwater (25%). Groundwater contamination potentially exists at the site and may pose a threat to Baxter Springs public water supply #5. However, without a detailed hydrogeological investigation of the area it is not possible to confirm potential threats. Groundwater quality in the area will continue to deteriorate from past mining activities. There are no known private drinking water or irrigation wells within a four mile radius of the site (Kansas Water Data Base). Several public water supply wells serving the city of Picher, Oklahoma and one public water supply well serving Quapaw, Oklahoma are near the four mile radius boundary (Oklahoma State Department of Health, 1989).

Surface water samples collected at the headwaters of the unnamed tributary at the site indicate heavy metal contamination. The surface intake for Baxter Springs is upstream from the confluence of the unnamed tributary and Spring River; therefore surface water contamination from the site should not influence the quality of water at the surface water intake. There are no known irrigation intakes within 15 stream miles downstream of the site (Kansas Water Data Base).

Surface water used for contact recreation that has been contaminated from mine water discharges and seeps, and from tailing pile runoff, could potentially effect the population within a four mile radius of the site (5598 persons) by direct contact.

Surface subsidence and open mine shafts at the site pose physical hazards to the public.

5.2 Environmental

The potential contamination of surface water from mine water discharges, seeps and tailing pile runoff could present a potential adverse impact to the aquatic ecology of the unnamed tributary at the site. A potential critical habitat less than a mile downstream of documented hazardous substances has been designated for the Northern Spring Peeper (*Hyla crucifer crucifer*) (Kansas Department of Wildlife and Parks). Six additional areas designated as critical habitats potentially occur within a four mile radius of the site. Appendix 4 describes these designated critical habitat areas.

SECTION 6: PRELIMINARY AND PROJECTED HRS SCORING FORMS

COVER SHEET
PRELIMINARY/PROJECTED HRS SCORES

Facility name: BAXTER SPRINGS MINE/SMELTER - KS D984966945

Location: NE,NE-Section 10, Township 35, Range 24 East

EPA Region: VII

**Person(s) in charge
of the facility:** Fred and Edna Mitchelson - owners
N.L. Industries - past operators

Name of reviewer: Rick L. Bean **Date:** 06/05/89

General Description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of facility; contamination route of major concern; types of information needed for rating; agency action, etc..)

The site identified as the Baxter Springs Mine/Smelter (KS D984966945) operated from 1930 to 1959. Mining operations left large quantities of tailings, open mine shafts and potential uncontrollable subsidence at the surface of the site. An alleged smelter operation at the site also may have contributed to potential contamination. The Baxter Springs Smelter/Mine was originally identified in 1981 when a "Potential Hazardous Waste Site Notification" form was submitted by the owner/operator of the site.

Preliminary Scores: $S_m = 6.43$ ($S_{gw} = 7.76$ $S_{sw} = 10.63$ $S_a = NS$)

$S_{FE} = NS$

$S_{OC} = NS$

Projected Scores: $S_m = 33.16$ ($S_{gw} = 60.22$ $S_{sw} = 21.81$ $S_a = NS$)

$S_{FF} = NS$

$S_{OC} = NS$

NS - Not Scored

Groundwater Route Work Sheet

PRELIMINARY HRS SCORE

	Observed Release	Score
1)	Observed Release YES (45) NOX (0)	*
	TOTAL OBSERVED RELEASE SCORE	<u>0.0</u>

Route Characteristics

2)	Route Characteristics	
	Depth to Aquifer (0,1,2,3) X 2	<u>0</u>
	Net Precipitation (0,1,2,3) X 1	<u>1</u>
	Perm. of Unsat. Zone (0,1,2,3) X 1	<u>1</u>
	Physical State (0,1,2,3) X 1	<u>1</u>
	TOTAL ROUTE CHARACTERISTICS SCORE	<u>3.0</u>
3)	Containment (0,1,2,3) X 1	<u>3.0</u>

Waste Characteristics

4)	Waste Characteristics	
	Toxicity/Persistence (0,3,6,9,12,15,18) X 1	<u>18</u>
	Hazardous Waste Quantity (0,1,2,3,4,5,6,7,8) X 1	<u>1</u>
	TOTAL WASTE CHARACTERISTICS SCORE	<u>19.0</u>

Targets

5)	Targets	
	Groundwater Use (0,1,2,3) X 3	<u>6</u>
	Distance to Nearest Well/Population Served (0,4,6,8,10,12,16,18,20,24,30,32,35,40) X 1	<u>20</u>
	TOTAL TARGETS SCORE	<u>26.0</u>

Multiply observed release, total waste characteristics and total targets if there is an observed release. Or multiply total route characteristics, total waste characteristics, and total targets if there is not an observed release.

Observed Release 0 X Waste X Targets =
 or
 Route Characteristics 3 X Containment 3 X Waste Characteristics 19 X
 Targets 26 = 4446

4446/57,330 X 100 = 7.76

* unknown category

Surface Water Route Work Sheet

PRELIMINARY HRS SCORE

	Observed Release	Score
1) Observed Release	YES <u>X</u> (45) NO (0)	
TOTAL OBSERVED RELEASE SCORE		<u>45.0</u>

Route Characteristics

2) Route Characteristics

Facility Slope and Intervening Terrain	(0,1,2,3)	X 2
1-yr. 24-hr. Rainfall	(0,1,2,3)	X 1
Distance to Nearest Surface Water	(0,1,2,3)	X 1
Physical State	(0,1,2,3)	X 1

TOTAL ROUTE CHARACTERISTICS SCORE

3) Containment (0,1,2,3) X 1

Waste Characteristics

4) Waste Characteristics

Toxicity/Persistence	(0,3,6,9,12,15,18)	X 1	<u>18</u>
Hazardous Waste Quantity	(0,1,2,3,4,5,6,7,8)	X 1	<u>1</u>

TOTAL WASTE CHARACTERISTICS SCORE 19.0

Targets

5) Targets

Surface Water Use	(0,1,2,3)	X 3	<u>6</u>
Distance to a Sensitive Environment	(0,1,2,3)	X 2	<u>6</u>
Population Served/Distance to Water Intake Downstream	(0,4,6,8,10,12,16,18,20,24,30,32,35,40)	X 1	<u>0</u>

TOTAL TARGETS SCORE 12.0

Multiply observed release, total waste characteristics and total targets if there is an observed release. Or multiply total route characteristics, total waste characteristics, and total targets if there is not an observed release.

Observed Release 45 X Waste 26 X Targets 12 = 14040

or

Route Characteristics X Containment X Waste X

Targets =

14040/64,350 X 100 = 21.81

* unknown category

Groundwater Route Work Sheet

PROJECTED HRS SCORE

	Observed Release	Score
1) Observed Release	YES <u>X</u> (45) NO (0)	*
TOTAL OBSERVED RELEASE SCORE		<u>45.0</u>
Route Characteristics		
2) Route Characteristics		
Depth to Aquifer	(0,1,2,3) X 2	
Net Precipitation	(0,1,2,3) X 1	
Perm. of Unsat. Zone	(0,1,2,3) X 1	
Physical State	(0,1,2,3) X 1	
TOTAL ROUTE CHARACTERISTICS SCORE		
3) Containment	(0,1,2,3) X 1	
Waste Characteristics		
4) Waste Characteristics		
Toxicity/Persistence		
(0,3,6,9,12,15,18)	X 1	<u>18</u>
Hazardous Waste Quantity		
(0,1,2,3,4,5,6,7,8)	X 1	<u>8</u>
TOTAL WASTE CHARACTERISTICS SCORE		<u>26.0</u>
Targets		
5) Targets		
Groundwater Use		
(0,1,2,3)	X 3	<u>6</u>
Distance to Nearest Well/Population Served		
(0,4,6,8,10,12,16,18,20,24,30,32,35,40)	X 1	<u>20</u>
TOTAL TARGETS SCORE		<u>26.0</u>

Multiply observed release, total waste characteristics and total targets if there is an observed release. Or multiply total route characteristics, total waste characteristics, and total targets if there is not an observed release.

Observed Release 45 X Waste 26 X Targets 26 = 30420

or

Route Characteristics X Containment X Waste X Targets =

30420/57,330 X 100 = 53.06

* unknown category

Surface Water Route Work Sheet

PROJECTED HRS SCORE

	Observed Release	Score
1) Observed Release	YES <u>X</u> (45) NO (0)	
TOTAL OBSERVED RELEASE SCORE		<u>45.0</u>

Route Characteristics

2) Route Characteristics

Facility Slope and Intervening Terrain	(0,1,2,3)	X 2
1-yr. 24-hr. Rainfall	(0,1,2,3)	X 1
Distance to Nearest Surface Water	(0,1,2,3)	X 1
Physical State	(0,1,2,3)	X 1

TOTAL ROUTE CHARACTERISTICS SCORE

3) Containment (0,1,2,3) X 1

Waste Characteristics

4) Waste Characteristics

Toxicity/Persistence	(0,3,6,9,12,15,18)	X 1	<u>18</u>
Hazardous Waste Quantity	(0,1,2,3,4,5,6,7,8)	X 1	<u>8</u>

TOTAL WASTE CHARACTERISTICS SCORE 26.0

Targets

5) Targets

Surface Water Use	(0,1,2,3)	X 3	<u>6</u>
Distance to a Sensitive Environment	(0,1,2,3)	X 2	<u>6</u>
Population Served/Distance to Water Intake Downstream	(0,4,6,8,10,12,16,18,20,24,30,32,35,40)	X 1	<u>0</u>

TOTAL TARGETS SCORE 12.0

Multiply observed release, total waste characteristics and total targets if there is an observed release. Or multiply total route characteristics, total waste characteristics, and total targets if there is not an observed release.

Observed Release 45 X Waste 26 X Targets 12 = 14040

or

Route Characteristics X Containment X Waste X
Targets =

14040/64,350 X 100 = 21.81

* unknown category

HRS SCORE

Pathway	Preliminary Score	Projected Score
A) Groundwater Route Score	<u>7.76</u>	<u>53.06</u>
B) Surface Water Route Score	<u>10.63</u>	<u>21.81</u>
C) Air Route Score	<u>NS</u>	<u>NS</u>
D) $A^2 + B^2 + C^2$	<u>123.63</u>	<u>3291.04</u>
E) $\sqrt{A^2 + B^2 + C^2}$	<u>11.12</u>	<u>57.37</u>
F) $\sqrt{A^2 + B^2 + C^2} / 1.73$	<u>6.43</u>	<u>33.16</u>

PRELIMINARY HRS SCORE 6.43

PROJECTED HRS SCORE 33.16

SECTION 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Information gathered during the preliminary assessment of the Baxter Springs Mine/Smelter indicates that a smelter operation has never existed at the defined site. However, activity at the site did include mining operations which may have resulted in heavy metal contamination of both on and off site surface water drainage. According to personnel at EPA Region VII, the site is encompassed by the Baxter Springs sub-site of the Cherokee County Superfund site.

7.2 Recommendations

Heavy metal contamination has been detected in the surface water at the site and the projected HRS score indicates that this site may meet the minimum requirements for National Priorities List (NPL) listing. However, since the site was inaccurately identified as a smelter and is to be included in the investigation of the Baxter Springs sub-site, it should be treated as part of the Cherokee County Superfund site. The site also should be removed from the CERCLIS database and the Kansas Department of Health and Environment's Identified Sites List (ISL).

SECTION 8: REFERENCES

1. City of Baxter Springs Water Department, Telephone Conversation Records.
2. Kansas Department of Agriculture, Division of Water Resources, Kansas Water Data Base: Irrigated Land and Points of Diversion file.
3. Kansas Department of Health and Environment, 1987, "Kansas, Surface Water Quality Standards."
4. Kansas Department of Health and Environment, Bureau of Environmental Remediation, Cherokee County files.
5. Kansas Department of Health and Environment, Bureau of Water: Baxter Springs Public Water Supply files.
6. Kansas Department of Health and Environment, Kansas Water Data Base: Water Well Record file.
7. Kansas Department of Wildlife and Parks, 1988, "Threatened and Endangered Species List."
8. Kansas Division of Water Resources, 1975, "Rural Water Districts in Kansas." Water Resource Board, Bulletin 18.
9. Kansas Water Resource Board, 1960, "State Water Plan Studies; Part A; Preliminary Appraisal of Kansas Water Problems; Section 7. Neosho Unit."
10. National Weather Service Records and Administration.
11. Oklahoma Department of Health, Public Water Supply Section, Telephone Conversation Records.
12. Sitting, Marshall, 1985, Toxic and Hazardous Chemicals and Carcinogens, NOYES Publications, New Jersey, U.S.A.
13. United States Department of Commerce, 1980, "Number of Inhabitants, Kansas; 1980 Census Population."
14. United States Geological Survey, 1977, Baxter Springs Quadrangle, Cherokee County, 7.5 Minute Series.

SECTION 9: PRELIMINARY ASSESSMENT (EPA FORM 2070-12)



Potential Hazardous Waste Site

Preliminary Assessment

OF THE

BAXTER SPRINGS MINE/SMELTER

KS D884966945

BAXTER SPRINGS, KANSAS

CHEROKEE COUNTY



Preliminary Assessment



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
KS 09849669945

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
Baxter Springs Mine/Smelter	NE Section 10, T35S, R24E			
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE 08 CONG DIST
Baxter Springs	Ks	66713	Cherokee	21 5
09 COORDINATES	LATITUDE LONGITUDE			
37° 00' 45.0"	094° 45' 37.5"			

10 DIRECTIONS TO SITE (Starting from nearest public road): From Baxter Springs, head west on 19th Street, which will turn into County Road FAS 105, for 1.0 miles. The site is at the intersection of County Road FAS 105 and County Road FAS 1173.

III. RESPONSIBLE PARTIES

01 OWNER (if known)	02 STREET (Business, mailing, residence)			
Edna Mitchelson	Box 610, Natl. Bank Bldg.			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Pittsburg	Ks	66762	(316) 231-6899	
07 OPERATOR (if known and different from owner)	08 STREET (Business, mailing, residence)			
N.L. Industries	P.O. Box 1090			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
Highstown	NJ	08520	(609) 443-2000	

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: / / ☐ B. UNCONTROLLED WASTE SITE (RCRA 103 c) DATE RECEIVED: / / ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION	BY (Check all that apply)			
<input checked="" type="checkbox"/> YES DATE 05 / 01 / 89	<input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input checked="" type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR			
<input type="checkbox"/> NO	<input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER (Specify)			
CONTRACTOR NAME(S):				
02 SITE STATUS (Check one)	03 YEARS OF OPERATION			
<input type="checkbox"/> A. ACTIVE <input checked="" type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN	1930 1959 (?) UNKNOWN			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Mining wastes which include heavy metals (Iron, lead, zinc and cadmium).

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Potential groundwater and surface water contamination from mining wastes.

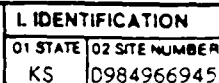
V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☒ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER	
Rick L. Bean	KDHE/BER		(913) 296-1665	
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Rick L. Bean	KDHE	BER	(913) 296-1665	6 / 1 / 89



03 WASTE CHARACTERISTICS (Check all that apply)

<input checked="" type="checkbox"/> A TOXIC	<input type="checkbox"/> E SOLUBLE	<input type="checkbox"/> I HIGHLY VOLATILE
<input type="checkbox"/> B CORROSIVE	<input type="checkbox"/> F INFECTIOUS	<input type="checkbox"/> J EXPLOSIVE
<input type="checkbox"/> C RADIOACTIVE	<input type="checkbox"/> G FLAMMABLE	<input type="checkbox"/> K REACTIVE
<input type="checkbox"/> D PERSISTENT	<input type="checkbox"/> H IGNITABLE	<input type="checkbox"/> L INCOMPATIBLE
		<input type="checkbox"/> M NOT APPLICABLE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	(U N K N O W N)		
OCC	OTHER ORGANIC CHEMICALS			
ICC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

*KCHE Analytical Data



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE KS 02 SITE NUMBER D984966945

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 4773* 04 NARRATIVE DESCRIPTION

Groundwater may potentially be contaminated from past mining activity. Runoff from tailing piles, surface drainage to subsurface aquifers, and abandoned wells may also contribute to groundwater contamination.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☒ OBSERVED (DATE 5/1/89) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 5598* 04 NARRATIVE DESCRIPTION

The quality of surface water at the site has been significantly impaired due to surface seepage and runoff from tailings. Analytical results indicate elevated levels of cadmium (120 ppb.), Zinc (19,760 ppb.), Iron (40,590 ppb.), and manganese (5,050 ppb). Surface water downgradient of the site is used for contact recreation.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Not Known

01 ☐ D. FIRE EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 5598* 04 NARRATIVE DESCRIPTION

The population within a four mile radius of the site (5598) could potentially be affected by direct contact with surface water that is contaminated. No security fences exist at the site so on-site contact with contaminants is possible.

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 182 (Acres) 04 NARRATIVE DESCRIPTION

On site soil is potentially contaminated with heavy metals. Approximately 90% of the acres has been mined.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 4773* 04 NARRATIVE DESCRIPTION

The potential for groundwater contamination exists at the site. Baxter Springs, which is approximately 1.25 miles east of the site, obtains approximately 25% of its water from groundwater. PWS Well #5 could potentially become contaminated.

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Not Known

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Not Known



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
KS 0984966945

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

The potential for damage to on-site flora exists however, none was observed.

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

The potential exists for damage to fauna in nearby streams however, none was observed.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

Not Known

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquids, leaking drums)
03 POPULATION POTENTIALLY AFFECTED: 5598

02 ☐ OBSERVED (DATE: 5/1/89)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

Runoff and drainage from tailing piles at the site can migrate off-site via a drainage system.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: 5/1/89)

☐ POTENTIAL

☐ ALLEGED

Contaminated surface water drainage migrates off site onto other properties.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Not Known

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Not Known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

Surface subsidence and open mine shafts at the site pose physical hazards to the population.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 5598*

IV. COMMENTS

* estimated population within four mile radius of the site.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1980 Bureau of Census

TCR with Baxter Springs officials

On-site inspection; field notes

KDHE files

District files

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

General Information

The Potential Hazardous Waste Site, Preliminary Assessment form is used to record information necessary to make an initial evaluation of the potential risk posed by a site and to recommend further action.

The Preliminary Assessment form contains three parts:

Part 1 — Site Information and Assessment

Part 2 — Waste Information

Part 3 — Description of Hazardous Conditions and Incidents

Part 1 — Site Information and Assessment contains all of the data elements also contained on the Site Identification form required to add a site to the automated Site Tracking System (STS). It is therefore possible to add a site to STS at the Preliminary Assessment stage. Instructions are given below.

Part 2 — Waste Information and Part 3 — Description of Hazardous Conditions and Incidents are used to record specific information about substances, amounts, hazards, and targets, e.g., population potentially affected, that are used in determining the priority for further action. Parts 2 and 3 are also contained in the Potential Hazardous Waste Site, Site Inspection Report form where they may be used to update, add, delete, or correct information supplied on the Preliminary Assessment.

An Appendix with feedstock names and CAS Numbers and the most frequently cited hazardous substances and CAS Numbers is located behind the instructions for the Preliminary Assessment.

General Instructions

1. Complete the Preliminary Assessment form as completely as possible.

2. Starred items (*) are required before assessment information can be added to STS. The system will not accept incomplete assessment information.

3. To add a site to STS at the Preliminary Assessment stage, write "New" across the top of the form and complete items II-01, 02, 03, 04, and 06, Site Name and Location, and item III-13, Type of Ownership.

4. Data items carried in STS, which are identical to those on the Site Identification form and which can be added, deleted, or changed using the Preliminary Assessment form, are indicated with a pound sign (*). To ensure that the proper action is taken, outline the item(s) to be added, deleted, or changed with a bright color and indicate the proper action with "A" (add), "D" (delete), or "C" (change).

5. There are two options available for adding, deleting, or changing information supplied on the Preliminary Assessment form. The first is to use a new Preliminary Assessment form, completing only those items to be added, deleted, or changed. Mark the form clearly, using "A", "D", or "C", to indicate the action to be taken. If only data carried in STS are to be altered, the Site Source Data Report may be used. Using the report, mark clearly the items to be changed and the action to be taken.

Detailed Instructions

Part 1 Site Information and Assessment

- I. Identification: Identification (State and Site Number) is the site record key, or primary identifier, for the site. Site records in the STS are updated based on Identification. It is essential that State and Site Number are correctly entered on each form.
 - *I-01 State: Enter the two character alpha FIPS code for the state in which the site is located. It must be identical to State on the Site Identification form.
 - *I-02 Site Number: Enter the ten character alphanumeric code for sites which have a Dun and Bradstreet or EPA "user" Dun and Bradstreet number or the ten character numeric GSA identification code for federal sites. The Site Number must be identical to the Site Number on the Site Identification form.
- II. Site Name and Location: If Site Name and Location information require no additions or changes, these items are not required on the Preliminary Assessment form. However, completing these items will facilitate use of the completed form and records management procedures.
 - *II-01 Site Name: Enter the legal, common, or descriptive name of the site.
 - *II-02 Site Street: Enter the street address and number (if appropriate) where the site is located. If the precise street address is unavailable for this site, enter brief direction identifier, e.g., NW intersection I-295 & US 99; Post Rd, 5 mi W of Rt. 5.
 - *II-03 Site City: Enter the city, town, village, or other municipality in which the site is located. If the site is not located in a municipality, enter the name of the municipality (or place) which is nearest the site or which most easily locates the site.
 - *II-04 Site State: Enter the two character alpha FIPS code for the state in which the site is located. The code must be the same as in item I-01.
 - *II-05 Site Zip Code: Enter the five character numeric zip code for the postal zone in which the site is located.
 - *II-06 Site County: Enter the name of the county, parish (Louisiana), or borough (Alaska) in which the site is located.
 - *II-07 County Code: Enter the three character numeric FIPS county code for the county, parish, or borough in which the site is located. (The regional data analyst will furnish this data item.)
 - *II-08 Site Congressional District: Enter the two character number for the congressional district in which the site is located.
 - II-09 Coordinates: Enter the Coordinates, Latitude and Longitude, of the site in degrees, minutes, seconds and tenths of seconds. If a tenth of a second is insignificant at this site, enter "0".
 - II-10 Directions to Site: Starting from the nearest public road, provide narrative directions to the site.

III. Responsible Parties

- #III-01 Site Owner: Enter the name of the owner of the site. The site owner is the person, company, or federal, state, municipal or other public or private entity, who currently holds title to the property on which the site is located.
- #III-02 Site Owner Address: Enter the current complete business, residential, or mailing address at which the owner of the site can be reached.
- 03
- 04
- 05
- III-06 Site Owner Telephone Number: Enter the area code and local telephone number at which the owner of the site can be reached.
- #III-07 Site Operator: If different from Site Owner, enter the name of the operator at the site. The site operator is the person, company, or federal, state, municipal or other public or private entity, who currently, or most recently, is, or was, responsible for operations at the site.
- #III-08 Site Operator Address: Enter the current complete business, residential, or mailing address at which the operator of the site can be reached.
- 09
- 10
- 11
- III-12 Site Operator Telephone Number: Enter the area code and local telephone number at which the operator of the site can be reached.
- #III-13 Type of Ownership: Check the appropriate box to indicate the type of site ownership. If the site is under the jurisdiction of an activity of the federal government, enter the name of the department, agency, or activity. If Other is indicated, specify the type of ownership and name.
- III-14 Owner/Operator Notification On File: Check the appropriate box(es) to indicate that the notification required by RCRA (3001) and/or CERCLA (103c, Superfund) have been received. If received, enter the date(s) received. Check none if not received.

IV Characterization of Potential Hazard

- IV-01 On Site Inspection: Check the appropriate box to indicate that the site has been inspected or visited by EPA, a state or local official, or a contractor representative of EPA or a state or local government. Enter the date of the inspection. Check the appropriate box(es) to indicate who visited the site or performed the inspection. If the site visit was performed by a contractor, enter the name of the company.
- *IV-02 Site Status: Check the appropriate box(es) to indicate the current status of the site. Active sites are those which treat, store, or dispose of wastes. Check Active for those active sites with an inactive storage or disposal area. Inactive sites are those at which treatment, storage, or disposal activities no longer occur.
- IV-03 Years of Operation: Enter the beginning and ending years (or beginning only if operations at the site are on-going), e.g., 1878/1932, of waste treatment, storage, and/or disposal activities at the site. Check Unknown if the years of operation are not known.
- IV-04 Description of Substances Possibly Present, Known, or Alleged: Provide a narrative description of

hazardous, potentially hazardous, or other substances present, or claimed to be present, at the site.

- IV-05 Description of Potential Hazard to Environment and/or Population: Provide a narrative description of the potential hazard the site poses to the environment and to exposed population or wildlife. If no hazard, or potential hazard, exists, provide the basis for that determination.

V. Priority Assessment

- *V-01 Priority for Inspection: Check the appropriate box to indicate the priority for further action or inspection. If no further action is required, complete the Potential Hazardous Waste Site, Current Disposition form. The Priority for Inspection assessed must be supported by appropriate data in Part 2 – Waste Information and Part 3 – Description of Hazardous Conditions and Incidents of this form. If no hazardous conditions exist, Part 3 is not required.

VI. Information Available From

- VI-01 Contact: Enter the name of the individual who can provide information about the site.
- VI-02 Of: If appropriate, enter the name of the Public or private agency, firm, or company and the organization within the agency, firm, or company of the individual named as Contact.
- VI-03 Telephone Number: Enter the area code and local telephone number of the individual named as contact.
- VI-04 Person Responsible for Assessment: Enter the name of the individual who made the site assessment and assigned the priority rating to the site. The person responsible for the assessment may be different from the individual who prepared the form.
- VI-05 Agency: Enter the name of the Agency where the individual who made the assessment is employed.
- VI-06 Organization: Enter the name of the organization within the Agency.
- VI-07 Telephone Number: Enter the area code and local telephone number of the individual who made the assessment.
- VI-08 Date: Enter the date the assessment was made.

Part 2 Waste Information

- *I. Identification: Refer to Part 1–1.

II. Waste States, Quantities, and Characteristics: Waste States, Quantities, and Characteristics provide information about the physical structure and form of the waste, measures of gross amounts at the site, and the hazards posed by the waste, considering acute and chronic health effects and mobility along a pathway.

- *II-01 Physical States: Check the appropriate box(es) to indicate the state(s) of waste present, or thought to be present, at the site. If Other is indicated, specify the physical state of the waste.

*II-02 Waste Quantity at Site: Enter estimates of amounts of waste at the site. Estimates may be in weight (Tons) or volume (Cubic Yards or Number of Drums). Use as many entries as are appropriate; however, measurements must be independent. For

- example, do not measure the same amounts of waste as both tons and cubic yards.
- *II-03 **Waste Characteristics:** Check all appropriate entries to indicate the hazards posed by waste at the site. If waste at the site poses no hazard, check Not Applicable.
- III. **Waste Category:** General categories of waste typically found are listed here. Enter the estimated gross amount of the category of waste next to the appropriate substance name and enter the unit of measure used with the estimate.
- *III-01 **Gross Amount:** Gross Amount is the estimate of the amount of the waste category found at the site. Estimates should be furnished in metric tons (MT), tons (TN), cubic meters (CM), cubic yards (CY), drums (DR), acres (AC), acre feet (AF), liters (LT), or gallons (GA). Enter the estimated amount next to the appropriate waste category.
- *III-02 **Unit of Measure:** Enter the appropriate unit of measure: MT (metric tons), TN (tons), CM (cubic meters), CY (cubic yards), DR (number of drums), AC (acres), AF (acre feet), LT (liters), or GA (gallons), next to the estimate of gross amount.
- III-03 **Comments:** Comments may be used to further explain, or provide additional information, about particular waste categories.
- IV. **Hazardous Substances:** Specific hazardous, or potentially hazardous, chemicals, mixtures, and substances found at the site are listed here. This information may not be available at the Preliminary Assessment stage. Substances for which information is available are to be listed here. For each substance listed those data items marked with an "at" sign (@) must be included.
- @IV-01 **Category:** Enter in front of the substance name the three character waste category from Section III which best describes the substance, e.g., OLW (Oily Waste).
- @IV-02 **Substance Name:** Enter one of the following: the name of the substance registered with the Chemical Abstract Service, the common or accepted abbreviation of the substance, the generic name of the substance, or commercial name of the substance.
- @IV-03 **CAS Number:** Enter the number assigned to the substance when it was registered with the Chemical Abstract Service. Refer to the Appendix for most frequently cited CAS Numbers. CAS Numbers must be furnished for each substance listed. If a CAS Number for this substance has not been assigned, enter "999".
- @IV-04 **Storage/Disposal Method:** Enter the type of storage or disposal facility in which the substance was found: SI (surface impoundment, including pits, ponds, and lagoons), PL (pile), DR (drum), TK (tank), LF (landfill), LM (landfarm), OD (open dump).
- IV-05 **Concentration:** Enter the concentration of the substance found in samples taken at the site.
- IV-06 **Measure of Concentration:** Enter the appropriate unit of measure for the measured concentration of the substance found in the sample, e.g., MG/L, UG/L.

V. Feedstocks

V-01 **Feedstock Name:** If feedstocks, or substances derived from one or more feedstocks, are present at the site, enter the name of each feedstock found. See the Appendix for the feedstock list.

V-02 **CAS Number:** Enter the CAS Number for each feedstock named. See the Appendix for feedstock CAS Numbers.

VI. **Sources of Information:** List the sources used to obtain information for this form. Sources cited may include: sample analysis, reports, inspections, official records, or other documentation. Sources cited provide the basis for information entered on the form and may be used to obtain further information about the site.

Part 3 Description of Hazardous Conditions and Incidents

*I. **Identification:** Refer to Part 1-1.

II. Hazardous Conditions and Incidents:

II-01 **Hazards:** Indicate each hazardous, or potentially hazardous, condition known, or claimed, to exist at the site.

II-02 **Observed, Potential, or Alleged:** Check Observed and enter the date, or approximate date, of occurrence if a release of contaminants to the environment, or some other hazardous incident, is known to have occurred. In cases of a continuing release, e.g., groundwater contamination, enter the date, or approximate date, the condition first became apparent. If conditions exist for a potential release, check potential. Check Alleged for hazardous, or potentially hazardous, conditions claimed to exist at the site.

II-03 **Population Potentially Affected:** For each hazardous condition at the site, enter the number of people potentially affected. For Soil enter the number of acres potentially affected.

II-04 **Narrative Description:** Provide a narrative description, or explanation, of each condition. Include any additional information which further explains the condition.

II-05 **Description of Any Other Known, Potential, or Alleged Hazards:** Provide a narrative description of any other hazardous, or potentially hazardous, conditions at the site not covered above.

III. **Total Population Potentially Affected:** Enter the total number of people potentially affected by the existence of hazardous, or potentially hazardous, conditions at the site. Do not sum the numbers shown for each condition.

IV. **Comments:** Other information relevant to observed, potential, or alleged hazards may be entered here.

V. **Sources of Information:** List the sources used to obtain information for this form. Sources cited may include: sample analysis, reports, inspections, official records, or other documentation. Sources cited provide the basis for information entered on the form and may be used to obtain further information about the site.

APPENDIX

I. FEEDSTOCKS

CAS Number	Chemical Name	CAS Number	Chemical Name	CAS Number	Chemical Name
1. 7664-41-7	Ammonia	14. 1317-38-0	Cupric Oxide	27. 7778-50-9	Potassium Dichromate
2. 7440-36-0	Antimony	15. 7758-98-7	Cupric Sulfate	28. 1310-58-3	Potassium Hydroxide
3. 1309-64-4	Antimony Trioxide	16. 1317-39-1	Cuprous Oxide	29. 115-07-1	Propylene
4. 7440-38-2	Arsenic	17. 74-85-1	Ethylene	30. 10588-01-9	Sodium Dichromate
5. 1327-53-3	Arsenic Trioxide	18. 7647-01-0	Hydrochloric Acid	31. 1310-73-2	Sodium Hydroxide
6. 21109-95-5	Barium Sulfide	19. 7664-39-3	Hydrogen Fluoride	32. 7646-78-8	Stannic Chloride
7. 7726-95-6	Bromine	20. 1335-25-7	Lead Oxide	33. 7772-99-8	Stannous Chloride
8. 106-99-0	Butadiene	21. 7439-97-6	Mercury	34. 7664-93-9	Sulfuric Acid
9. 7440-43-9	Cadmium	22. 74-82-8	Methane	35. 108-88-3	Toluene
10. 7782-50-5	Chlorine	23. 91-20-3	Napthalene	36. 1330-20-7	Xylene
11. 12737-27-8	Chromite	24. 7440-02-0	Nickel	37. 7646-85-7	Zinc Chloride
12. 7440-47-3	Chromium	25. 7697-37-2	Nitric Acid	38. 7733-02-0	Zinc Sulfate
13. 7440-48-4	Cobalt	26. 7723-14-0	Phosphorus		

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name	CAS Number	Chemical Name	CAS Number	Chemical Name
1. 75-07-0	Acetaldehyde	47. 1303-33-9	Arsenic Trisulfide	92. 142-71-2	Cupric Acetate
2. 64-19-7	Acetic Acid	48. 542-62-1	Barium Cyanide	93. 12002-03-8	Cupric Acetoarsenite
3. 108-24-7	Acetic Anhydride	49. 71-43-2	Benzene	94. 7447-39-4	Cupric Chloride
4. 75-86-5	Acetone Cyanohydrin	50. 65-85-0	Benzoic Acid	95. 3251-23-8	Cupric Nitrate
5. 506-96-7	Acetyl Bromide	51. 100-47-0	Benzonitrile	96. 5893-66-3	Cupric Oxalate
6. 75-36-5	Acetyl Chloride	52. 98-88-4	Benzoyl Chloride	97. 7758-98-7	Cupric Sulfate
7. 107-02-8	Acrolein	53. 100-44-7	Benzyl Chloride	98. 10380-29-7	Cupric Sulfate Ammoniated
8. 107-13-1	Acrylonitrile	54. 7440-41-7	Beryllium	99. 815-82-7	Cupric Tartrate
9. 124-04-9	Adipic Acid	55. 7787-47-5	Beryllium Chloride	100. 506-77-4	Cyanogen Chloride
10. 309-00-2	Aldrin	56. 7787-49-7	Beryllium Fluoride	101. 110-82-7	Cyclohexane
11. 10043-01-3	Aluminum Sulfate	57. 13597-99-4	Beryllium Nitrate	102. 94-75-7	2,4-D Acid
12. 107-18-6	Allyl Alcohol	58. 123-86-4	Butyl Acetate	103. 94-11-1	2,4-D Esters
13. 107-05-1	Allyl Chloride	59. 84-74-2	n-Butyl Phthalate	104. 50-29-3	DDT
14. 7664-41-7	Ammonia	60. 109-73-9	Butylamine	105. 333-41-5	Diazinon
15. 631-61-8	Ammonium Acetate	61. 107-92-6	Butyric Acid	106. 1918-00-9	Dicamba
16. 1863-63-4	Ammonium Benzoate	62. 543-90-8	Cadmium Acetate	107. 1194-65-6	Dichlobenil
17. 1066-33-7	Ammonium Bicarbonate	63. 7789-42-6	Cadmium Bromide	108. 117-80-6	Dichlone
18. 7789-09-5	Ammonium Bichromate	64. 10108-64-2	Cadmium Chloride	109. 25321-22-6	Dichlorobenzene (all isomers)
19. 1341-49-7	Ammonium Bifluoride	65. 7778-44-1	Calcium Arsenate	110. 266-38-19-7	Dichloropropane (all isomers)
20. 10192-30-0	Ammonium Bisulfite	66. 52740-16-6	Calcium Arsenite	111. 26952-23-8	Dichloropropene (all isomers)
21. 1111-78-0	Ammonium Carbamate	67. 75-20-7	Calcium Carbide	112. 8003-19-8	Dichloropropene-Dichloropropene Mixture
22. 12125-02-9	Ammonium Chloride	68. 13765-19-0	Calcium Chromate	113. 75-99-0	2,2-Dichloropropionic Acid
23. 7788-98-9	Ammonium Chromate	69. 592-01-8	Calcium Cyanide	114. 62-73-7	Dichlorvos
24. 3012-65-5	Ammonium Citrate, Dibasic	70. 26264-06-2	Calcium Dodecylbenzene Sulfonate	115. 60-57-1	Dieldrin
25. 13826-83-0	Ammonium Fluoborate	71. 7778-54-3	Calcium Hypochlorite	116. 109-89-7	Diethylamine
26. 12125-01-8	Ammonium Fluoride	72. 133-06-2	Captan	117. 124-40-3	Dimethylamine
27. 1336-21-6	Ammonium Hydroxide	73. 63-25-2	Carbaryl	118. 25154-54-5	Dinitrobenzene (all isomers)
28. 6009-70-7	Ammonium Oxalate	74. 1563-66-2	Carbofuran	119. 51-28-5	Dinitrophenol
29. 16919-19-0	Ammonium Silicofluoride	75. 75-15-0	Carbon Disulfide	120. 25321-14-6	Dinitrotoluene (all isomers)
30. 7773-06-0	Ammonium Sulfamate	76. 56-23-5	Carbon Tetrachloride	121. 85-00-7	Diquat
31. 12135-76-1	Ammonium Sulfide	77. 57-74-9	Chlordane	122. 298-04-4	Disulfoton
32. 10196-04-0	Ammonium Sulfite	78. 7782-50-5	Chlorine	123. 330-64-1	Diuron
33. 14307-43-8	Ammonium Tartrate	79. 108-90-7	Chlorobenzene	124. 27176-87-0	Dodecylbenzenesulfonic Acid
34. 1762-95-4	Ammonium Thiocyanate	80. 67-66-3	Chloroform	125. 115-29-7	Endosulfan (all isomers)
35. 7783-18-8	Ammonium Thiosulfate	81. 7790-94-5	Chlorosulfonic Acid	126. 72-20-8	Endrin and Metabolites
36. 628-63-7	Amyl Acetate	82. 2921-88-2	Chlorpyrifos	127. 106-89-8	Epichlorohydrin
37. 62-53-3	Aniline	83. 1066-30-4	Chromic Acetate	128. 563-12-2	Ethion
38. 7647-18-9	Antimony Pentachloride	84. 7738-94-5	Chromic Acid	129. 100-41-4	Ethyl Benzene
39. 7789-61-9	Antimony Tribromide	85. 10101-63-8	Chromic Sulfate	130. 107-15-3	Ethylenediamine
40. 10025-91-9	Antimony Trichloride	86. 10049-05-5	Chromous Chloride	131. 106-93-4	Ethylene Dibromide
41. 7783-56-4	Antimony Trifluoride	87. 54-18-3	Cobaltous Formate	132. 107-06-2	Ethylene Dichloride
42. 1309-64-4	Antimony Trioxide	88. 14017-41-5	Cobaltous Sulfamate	133. 60-00-4	EDTA
43. 1303-32-8	Arsenic Disulfide	89. 56-72-4	Coumaphos	134. 1185-57-5	Ferric Ammonium Citrate
44. 1303-28-2	Arsenic Pentoxide	90. 1319-77-3	Cresol	135. 2944-67-4	Ferric Ammonium Oxalate
45. 7784-34-1	Arsenic Trichloride	91. 4170-30-3	Crotonaldehyde	136. 7705-08-0	Ferric Chloride
46. 1327-53-3	Arsenic Trioxide				

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name	CAS Number	Chemical Name	CAS Number	Chemical Name
137. 7783-50-8	Ferric Fluoride	192. 74-89-5	Monomethylamine	249. 7632-00-0	Sodium Nitrate
138. 10421-48-4	Ferric Nitrate	193. 300-76-5	Naled	250. 7558-79-4	Sodium Phosphate, Dibasic
139. 10028-22-5	Ferric Sulfate	194. 91-20-3	Naphthalene	251. 7601-54-9	Sodium Phosphate, Tribasic
140. 10045-89-3	Ferrous Ammonium Sulfate	195. 1338-24-5	Naphthenic Acid	252. 10102-18-8	Sodium Selenite
141. 7758-94-3	Ferrous Chloride	196. 7440-02-0	Nickel	253. 7789-06-2	Strontium Chromate
142. 7720-78-7	Ferrous Sulfate	197. 15699-18-0	Nickel Ammonium Sulfate	254. 57-24-9	Strychnine and Salts
143. 206-44-0	Fluoranthene	198. 37211-05-5	Nickel Chloride	255. 100-420-5	Styrene
144. 50-00-0	Formaldehyde	199. 12054-48-7	Nickel Hydroxide	256. 12771-08-3	Sulfur Monochloride
145. 64-18-6	Formic Acid	200. 14216-75-2	Nickel Nitrate	257. 7664-93-9	Sulfuric Acid
146. 110-17-8	Fumaric Acid	201. 7786-81-4	Nickel Sulfate	258. 93-76-5	2,4,5-T Acid
147. 98-01-1	Furfural	202. 7697-37-2	Nitric Acid	259. 2008-46-0	2,4,5-T Amines
148. 86-50-0	Guthion	203. 98-95-3	Nitrobenzene	260. 93-79-8	2,4,5-T Esters
149. 76-44-8	Heptachlor	204. 10102-44-0	Nitrogen Dioxide	261. 13560-99-1	2,4,5-T Salts
150. 118-74-1	Hexachlorobenzene	205. 25154-55-6	Nitrophenol (all isomers)	262. 93-72-1	2,4,5-TP Acid
151. 87-68-3	Hexachlorobutadiene	206. 1321-12-6	Nitrotoluene	263. 32534-95-5	2,4,5-TP Acid Esters
152. 67-72-1	Hexachloroethane	207. 30525-89-4	Paraformaldehyde	264. 72-54-8	TDE
153. 70-30-4	Hexachlorophene	208. 56-38-2	Parathion	265. 95-94-3	Tetrachlorobenzene
154. 77-47-4	Hexachlorocyclopentadiene	209. 608-93-5	Pentachlorobenzene	266. 127-18-4	Tetrachloroethane
155. 7647-01-0	Hydrochloric Acid (Hydrogen Chloride)	210. 87-86-5	Pentachlorophenol	267. 78-00-2	Tetraethyl Lead
156. 7664-39-3	Hydrofluoric Acid (Hydrogen Fluoride)	211. 85-01-8	Phenanthrene	268. 107-49-3	Tetraethyl Pyrophosphate
157. 74-90-8	Hydrogen Cyanide	212. 108-95-2	Phenol	269. 7446-18-6	Thallium (I) Sulfate
158. 7783-06-4	Hydrogen Sulfide	213. 75-44-5	Phosgene	270. 108-88-3	Toluene
159. 78-79-5	Isoprene	214. 7664-38-2	Phosphoric Acid	271. 8001-35-2	Toxaphene
160. 42504-46-1	Isopropanolamine	215. 7723-14-0	Phosphorus	272. 12002-48-1	Trichlorobenzene (all isomers)
161. 115-32-2	Dodecylbenzenesulfonate	216. 10025-87-3	Phosphorus Oxichloride	273. 52-68-6	Trichlorfon
162. 143-50-0	Keithane	217. 1314-80-3	Phosphorus Pentasulfide	274. 25323-89-1	Trichloroethane (all isomers)
163. 301-04-2	Lead Acetate	218. 7719-12-2	Phosphorus Trichloride	275. 79-01-6	Trichloroethylene
164. 3687-31-8	Lead Arsenate	219. 7784-41-0	Potassium Arsenate	276. 25167-82-2	Trichlorophenol (all isomers)
165. 7758-95-4	Lead Chloride	220. 10124-50-2	Potassium Arsenite	277. 27323-41-7	Triethanolamine
166. 13814-96-5	Lead Fluoborate	221. 7778-50-9	Potassium Bichromate		Dodecylbenzenesulfonate
167. 7783-46-2	Lead Fluoride	222. 7789-00-6	Potassium Chromate	278. 121-44-8	Triethylamine
168. 10101-63-0	Lead Iodide	223. 7722-64-7	Potassium Permanganate	279. 75-50-3	Trimethylamine
169. 18256-98-9	Lead Nitrate	224. 2312-35-8	Propargite	280. 541-09-3	Uranyl Acetate
170. 7428-48-0	Lead Stearate	225. 79-09-4	Propionic Acid	281. 10102-06-4	Uranyl Nitrate
171. 15739-80-7	Lead Sulfate	226. 123-62-6	Propionic Anhydride	282. 1314-62-1	Vanadium Pentoxide
172. 1314-87-0	Lead Sulfide	227. 1336-36-3	Polychlorinated Biphenyls	283. 27774-13-6	Vanadyl Sulfate
173. 592-87-0	Lead Thiocyanate	228. 151-50-8	Potassium Cyanide	284. 108-05-4	Vinyl Acetate
174. 58-89-9	Lindane	229. 1310-58-3	Potassium Hydroxide	285. 75-35-4	Vinylidene Chloride
175. 14307-35-8	Lithium Chromate	230. 75-56-9	Propylene Oxide	286. 1300-71-6	Xylenol
176. 121-75-5	Malthion	231. 121-29-9	Pyrethrins	287. 557-34-6	Zinc Acetate
177. 110-16-7	Maleic Acid	232. 91-22-5	Quinoline	288. 52628-25-8	Zinc Ammonium Chloride
178. 108-31-6	Maleic Anhydride	233. 108-46-3	Resorcinol	289. 1332-07-6	Zinc Borate
179. 2032-65-7	Mercaptodimethur	234. 7446-08-4	Selenium Oxide	290. 7699-45-8	Zinc Bromide
180. 592-04-1	Mercuric Cyanide	235. 7761-88-8	Silver Nitrate	291. 3486-35-9	Zinc Carbonate
181. 10045-94-0	Mercuric Nitrate	236. 7631-89-2	Sodium Arsenate	292. 7646-85-7	Zinc Chloride
182. 7783-35-9	Mercuric Sulfate	237. 7784-46-5	Sodium Arsenite	293. 557-21-1	Zinc Cyanide
183. 592-85-8	Mercuric Thiocyanate	238. 10588-01-9	Sodium Bichromate	294. 7783-49-3	Zinc Fluoride
184. 10415-75-5	Mercurous Nitrate	239. 1333-83-1	Sodium Bifluoride	295. 557-41-5	Zinc Formate
185. 72-43-5	Methoxychlor	240. 7631-90-5	Sodium Bisulfite	296. 7779-86-4	Zinc Hydrosulfite
186. 74-93-1	Methyl Mercaptan	241. 7775-11-3	Sodium Chromate	297. 7779-88-6	Zinc Nitrate
187. 80-62-6	Methyl Methacrylate	242. 143-33-9	Sodium Cyanide	298. 127-82-2	Zinc Phenolsulfonate
188. 298-00-0	Methyl Parathion	243. 25155-30-0	Sodium Dodecylbenzene Sulfonate	299. 1314-84-7	Zinc Phosphide
189. 7786-34-7	Mevinphos	244. 7681-49-4	Sodium Fluoride	300. 16871-71-9	Zinc Silicofluoride
190. 315-18-4	Mexacarbate	245. 16721-80-5	Sodium Hydrosulfide	301. 7733-02-0	Zinc Sulfate
191. 75-04-7	Monoethylamine	246. 1310-73-2	Sodium Hydroxide	302. 13746-89-9	Zirconium Nitrate
		247. 7681-62-9	Sodium Hypochlorite	303. 16923-95-8	Zirconium Potassium Fluoride
		248. 124-41-4	Sodium Methylate	304. 14644-61-2	Zirconium Sulfate
				305. 10026-11-6	Zirconium Tetrachloride

APPENDIX 1

Hazardous Waste Problem Site Summary

EPA

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
Forbes Field, Topeka, Kansas 66620 913-862-9360

HAZARDOUS WASTE POTENTIAL PROBLEM SITE SUMMARY

A. Name and Location of site:

Name Lead/Zinc Mine and Smelter
Street _____ City Baxter Springs
State Kansas County Cherokee Zip Code 66713

B. Name and address of person who filed original site notification:

Name F. R. Baser
Street P. O. Box 1090 (WycKoff - Mills Road)
City Highstown State New Jersey Zip Code 68520

C. Owner/Operator of site at time of notification:

Name N.L. Industries, Inc.
Street P. O. Box 1090 (WycKoff - Mills Road)
City Highstown State New Jersey Zip Code 68520

D. Narrative description of site: (dates used, quantities, water pollution potential, population affected)

Lead and zinc mining from 1930 to 1959.
Notification based on presumed storage of mined waste and slag.

E. Waste Types handled at site:
(Check all which apply) (list specific wastes where known)

<input type="checkbox"/> organics	_____
<input checked="" type="checkbox"/> inorganics	_____
<input type="checkbox"/> solvents	_____
<input type="checkbox"/> pesticides	_____
<input checked="" type="checkbox"/> heavy metals	_____
<input type="checkbox"/> acids	_____
<input type="checkbox"/> bases	_____
<input type="checkbox"/> PCB's	_____
<input type="checkbox"/> municipal waste	_____
<input type="checkbox"/> unknown	_____
<input checked="" type="checkbox"/> other (specify)	<u>Lead - zinc smelter</u>

F. Status:

Date of Action

Action

<u>8/ 1/81</u>	Site notification form received and logged in.
<u>/ /</u>	Preliminary file review and assessment completed.
<u>/ /</u>	On-site inspection conducted.
<u>4/ 1/83</u>	Tentative conclusion regarding site reached.
	<input type="checkbox"/> Low Priority site.
	<input checked="" type="checkbox"/> High Priority site.
<u>/ /</u>	On-site groundwater monitoring conducted.
<u>/ /</u>	Final conclusion regarding site reached. ..
	<input type="checkbox"/> No problem found. Delete from list.
	<input type="checkbox"/> No cleanup action required. Monitor site.
	<input type="checkbox"/> Cleanup action necessary. Develop cleanup plan.
	<input type="checkbox"/> Site constitutes serious problem. Immediate action required.

G. Description of remedial action plan:

H. Projected future activities at site: (e.g., sampling, monitoring, land use, etc.)

1-6-84

APPENDIX 2

Telephone Conversation Record with EPA Region VII Personnel

CONVERSATION RECORD

TIME

2:30 P

DATE

4/19/89

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

ROUTING

NAME/SYMBOL INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT
WITH YOU

Alice Fuerst

ORGANIZATION (Office, dept., Bureau,
etc.)

EPA Region VII

TELEPHONE NO.

913-236-2856

SUBJECT

Baxter Springs Smelter/Mine

KSD 984966945

SUMMARY

I asked Alice if the above referenced site was within the Baxter Springs Subsite of the Cherokee Co. Superfund Site. Alice said that it was within the subsite boundaries. Even though the above reference site is within a Superfund site she said that we should still conduct a P.A. at the site as scheduled. Information generated from the PA could also benefit the on-going Superfund work at the subsite. She also said that all slag piles within the above referenced site's boundary should be noted in the PA report.

ACTION REQUIRED

Alice would like to receive a copy of the P.A.

Call Ken Rapplean to confirm.

NAME OF PERSON DOCUMENTING CONVERSATION

Rick L. Bean

SIGNATURE

DATE

04/19/89

ACTION TAKEN

SIGNATURE

TITLE

DATE

APPENDIX 3

Telephone Conversation Record with Mr. Rodman, N.L. Industries

CONVERSATION RECORD

TIME
12:42 PDATE
12/15/88

TYPE

☐ VISIT☐ CONFERENCE☐ TELEPHONE☐ INCOMING☒ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT
WITH YOUORGANIZATION (Office, dept., bureau,
etc.)

TELEPHONE NO.

Mr. Rodman

N.L. Chemicals

609-443-2000

SUBJECT

Baxter Springs Smelter

ROUTING

NAME/SYMBOL INT

SUMMARY

I Called Mr. Rodman, Environmental Coordinator for N.L. Chemicals, Inc.,

P.O. Box 1090, Highstown, New Jersey 68520. A representative at NL Chemicals, Inc. had previously filled out a Hazardous Waste Site Notification Form. I asked Mr. Rodman if he had any knowledge of the location and history of this site. Mr. Rodman gave me the following legal description: NE NE and S/2 NE in lot #2, 10 acres of north side of lot #3 all in Section 10 T35S, R24E. The area consists of approximately 182 acres. Rodman referred to this site as the Ballard Property which operated from 1930 to 1959. The site was not a smelter but a mine. Ore from the mine was sent to Eagle Picher Smelter in Galena, Kansas. Rodman thought that this site was included in the Baxter Springs Subsite, Cherokee County Superfund Site. He referred me to a January 13, 1986 letter to EPA Region VII, Morris Kay, stating that NL Chemical did not operate a smelter at the site. The site is still active as far as hauling out chert. From Baxter Springs the site is immediately south of 19th Street, approximately 1½ miles West of Baxter Springs. Also referred to as Lead/Zinc Mine Smelter.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Rick L. Bean

12/15/88

ACTION TAKEN

SIGNATURE

TITLE

DATE

APPENDIX 4

Designated Critical Habitat Areas

KANSAS FISH & GAME COMMISSION
PERMIT PROGRAM FOR
PROJECTS AFFECTING THREATENED OR ENDANGERED SPECIES

The Kansas Nongame and Endangered Species Conservation Act of 1975 places the responsibility for identifying and undertaking appropriate conservation measures for threatened and endangered wildlife species directly upon the Fish and Game Commission. Although few in number, with their populations in jeopardy, these species constitute an important part of Kansas' wildlife heritage and serve as important barometers to the overall quality of life being enjoyed by all Kansans. In order to carry out this responsibility, it has been necessary for the Commission to implement protective regulations.

This informational packet is designed to explain existing statutes and regulations protecting threatened and endangered species and to assist sponsors of activities subject to the regulatory requirements in applying for a permit. All inquiries, correspondence, and applications pertaining to this permit program should be addressed to:

Environmental Services Section
Kansas Fish & Game Commission
Route 2, Box 54A
Pratt, Kansas 67124
(Phone 316-672-5911, Ext. 198 or 146)

[illegible]

Kansas' threatened and endangered species that are dependent upon terrestrial habitats:

Bald Eagle, *Haliaeetus leucocephalus* (Linnaeus)
Black-footed Ferret, *Mustela nigripes* (Audubon and Bachman)
Broadhead Skink, *Eumeces laticeps* (Schneider)
Brown Pelican, *Pelecanus occidentalis* Rafinesque
Central Newt, *Notophthalmus viridescens louisianensis*
(Wolterstorff)
Checkered Garter Snake, *Thamnophis marcianus marcianus* (Baird
and Girard)
Dark-sided Salamander, *Eurycea longicauda melanopleura* (Cope)
Eastern Hognose Snake, *Heterodon platyrhinos* Latreille
Eastern Narrowmouth Toad, *Gastrophryne carolinensis* (Holbrook)
Eastern Spotted Skunk, *Spilogale putoris interrupta*
(Rafinesque)

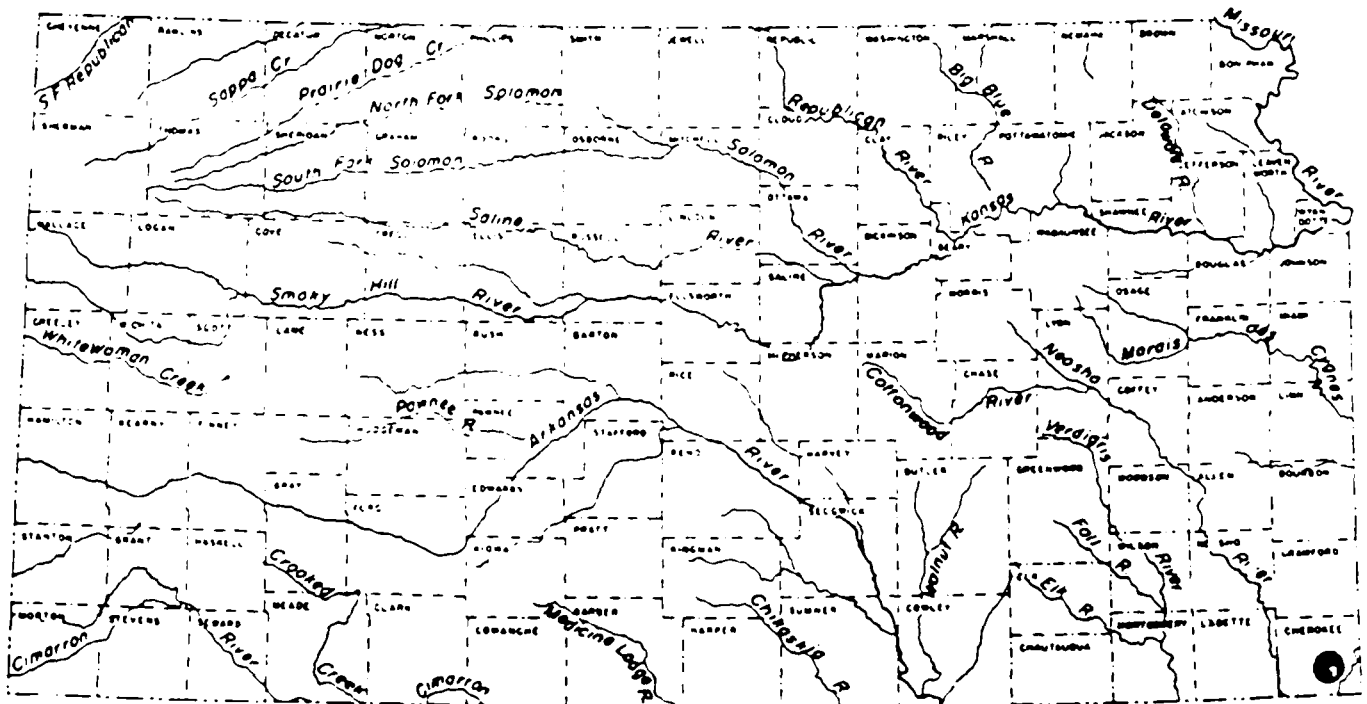
CAVE SALAMANDER

Eurycea lucifuga Rafinesque

Status: Endangered in Kansas

Adult Cave Salamanders are 4-6 inches long. The animal is bright orange-yellow above and covered with scattered black spots. The belly is white or yellow.

Cave Salamanders inhabit the twilight zone of limestone caves, or near permanent cold springs in forested areas. They may also be found under leaves and forest debris near caves and springs. In Kansas, the Cave Salamander is restricted to suitable habitat within the Ozark Plateau region in Cherokee County.



○ = Counties wherein Cave Salamanders may occur in suitable habitat.

◐ = Counties containing designated critical habitat for Cave Salamanders.

Protection of Central Newts and Their Critical Habitats

Central Newts are protected by the Kansas Nongame and Endangered Species Conservation Act of 1975 (K.S.A. 32-501 thru 32-510) and administrative regulations applicable thereto (K.A.R. 23-17-1 and 23-17-2).

Any time a project is proposed that will impact the critical habitats designated below, the project sponsor must contact the Environmental Services Section, Kansas Fish and Game Commission, Route 2, Box 54A, Pratt, Kansas 67124. Commission personnel can then advise the project sponsor on permit requirements under Kansas Administrative Regulation 23-17-2.

Any time a project is proposed that will impact preferred habitat within the counties where Central Newts may occur, the project sponsor must contact the Commission's Environmental Services Section to determine project liabilities under the Kansas Nongame and Endangered Species Conservation Act.

Designated Critical Habitat for Central Newt (*Notophthalmus viridescens louisianensis*)

Under authority of Kansas Administrative Regulation 23-17-2, the following areas are designated as critical habitat for Central Newt:

All suitable wetlands, waters, and moist wooded bottomlands occurring within that portion of Cherokee County lying south and east of a line starting at the Kansas-Missouri border at Kansas Highway 96 in the SE 1/4 Sec. 12, T33S, R25E, then extending west along K-96 to its junction with Kansas Highway 26 at the NE corner Sec. 18, T33S, R25E, then south along K-26 to its junction with U.S. Highway 66 at SE corner Sec. 18, T34S, R25E, then south and west along U.S. 66 to the Kansas-Oklahoma border at Sec. 14, T35S, R24E.

Effective 5-1-87
Subject to future revisions

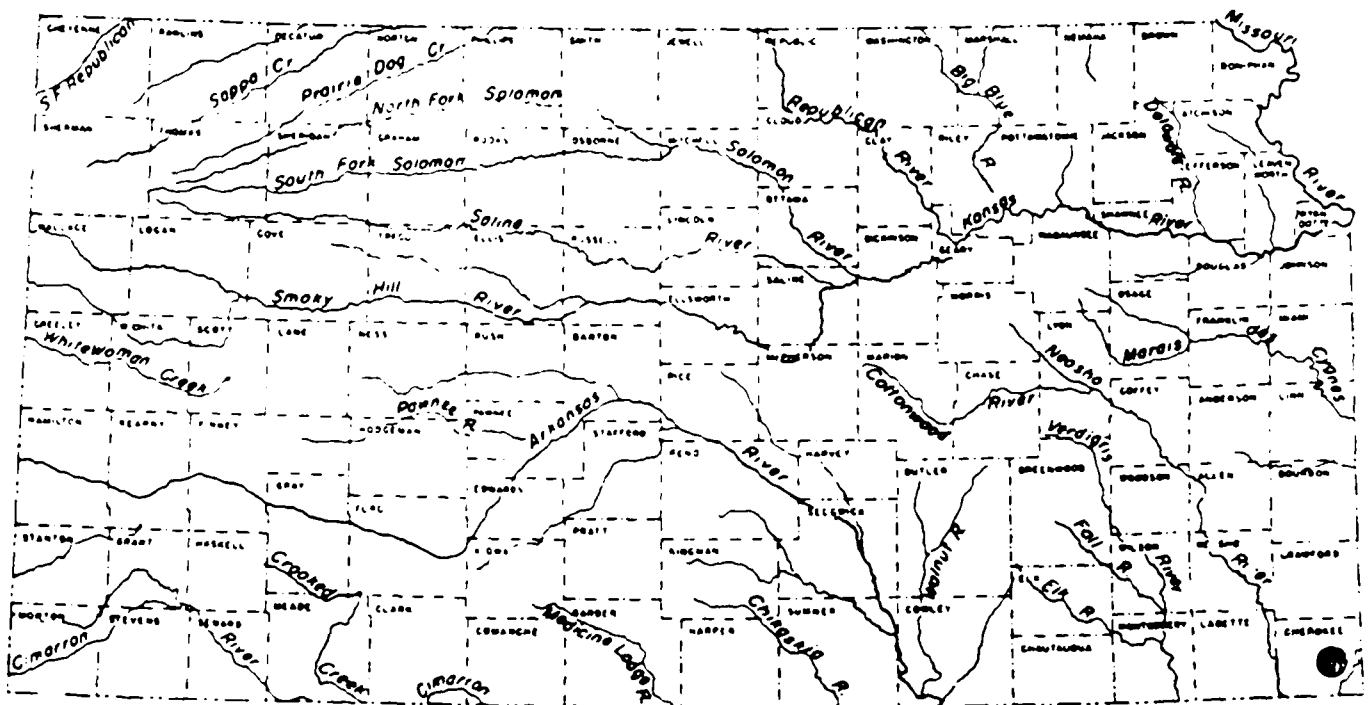
DARK-SIDED SALAMANDER

Eurycea longicauda melanopleura (Cope)

Status: Threatened in Kansas

Adult Dark-sided Salamanders vary from 3 1/2 to 6 inches in length. The back and head are brownish yellow to bright yellow. Black spots occur on the animal's back and may be scattered in pattern or arranged in a double row. The underside is dull white.

In Kansas, the Dark-sided Salamander is known only from the Ozark Plateau region of southeast Cherokee County where it is restricted to moist areas near streams, in or near caves, and under rocks and debris where moisture is suitable.



○ = Counties wherein Dark-sided Salamanders may occur in suitable habitat.

■ = Counties containing designated critical habitat for Dark-sided Salamanders.

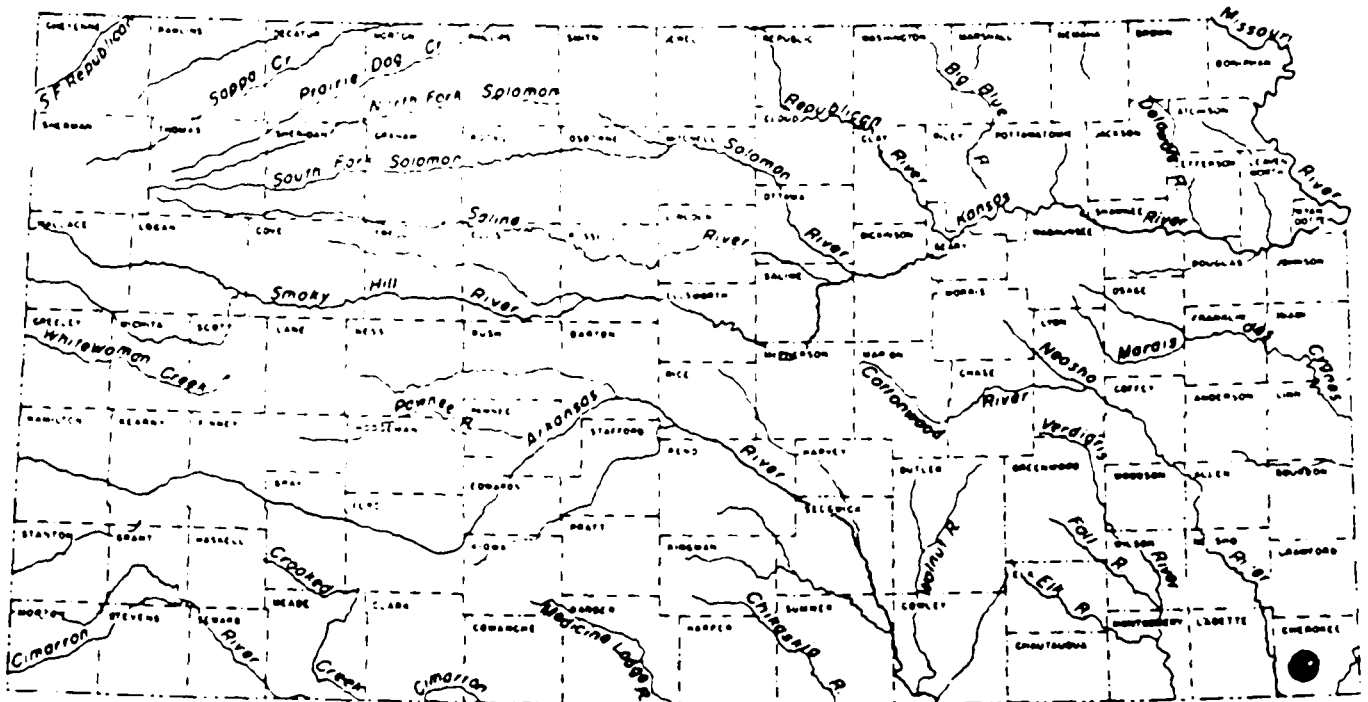
EASTERN NARROWMOUTH TOAD

Gastrophryne carolinensis (Holbrook)

Status: Threatened in Kansas

Adult Eastern Narrowmouth Toads are generally 1-1 1/4 inches long. Their color is a uniform brown to reddish brown. The belly is whitish with dark gray mottling. Males have a blackish throat.

This animal is restricted to extreme southeastern Kansas and is currently known only in the Ozark Plateau region of Cherokee County. Little is known about their specific habitat preferences. It probably lives beneath large rocks in areas having moist soil conditions. It is an opportunistic breeder utilizing clear temporary pools and shallows of impoundments.



○ = Counties wherein E. Narrowmouth Toads may occur in suitable habitat.

● = Counties containing designated critical habitat for E. Narrowmouth Toads.

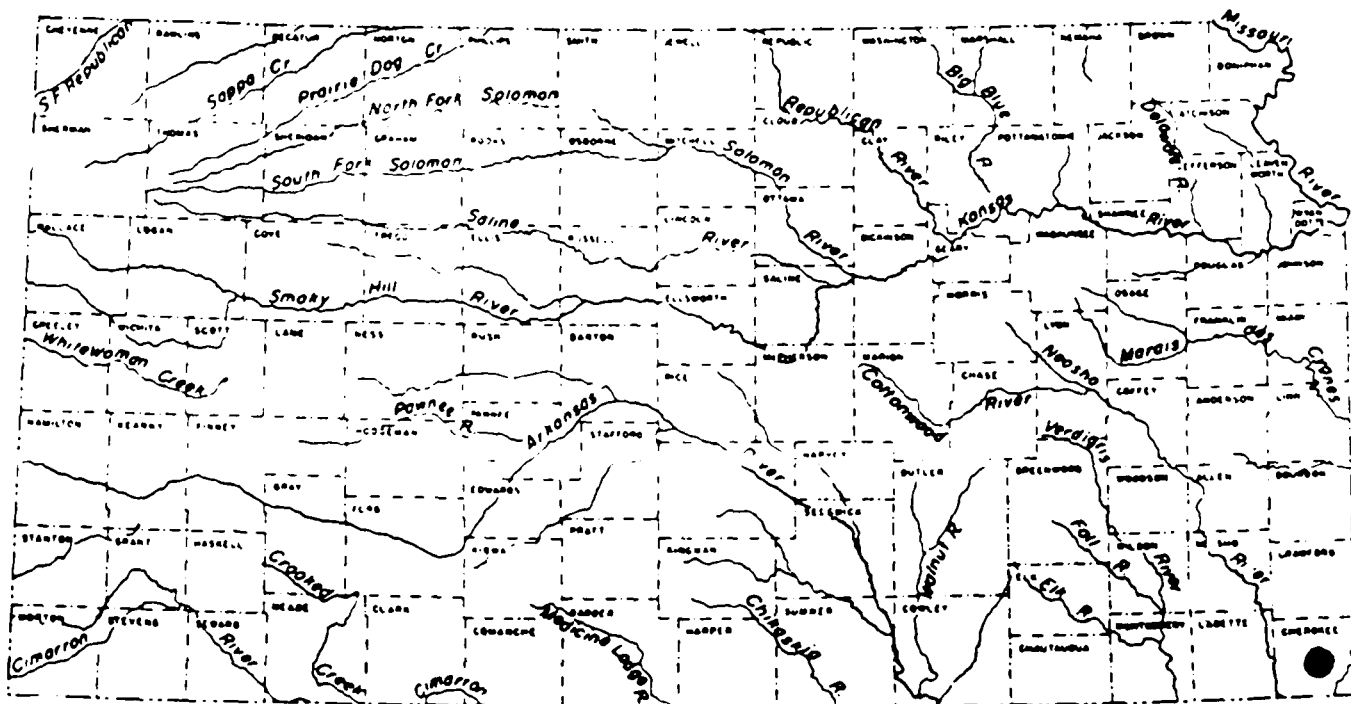
GRAYBELLY SALAMANDER

Eurycea multiplicata griseogaster Moore and Hughes

Status: Endangered in Kansas

The extremely rare Graybelly Salamander is Kansas' smallest salamander being only 2-3 inches long. There is a broad brown stripe running from the head down the back. The back may have small dark brown chevrons marking the medial grooves on the back. The animal's belly is pale gray to lemon yellow. This species has been found only in larval form in Kansas. The animal is dependent upon cave streams or spring flows where rock crevices offer cover.

The Graybelly Salamander's range in Kansas is limited to the Ozark Plateau region of Cherokee County where it requires caves and associated spring flows. Very little is known about this creature's habits and habitat requirements.



○ = Counties wherein Graybelly Salamanders may occur in suitable habitat.

● = Counties containing designated critical habitat for Graybelly Salamanders.

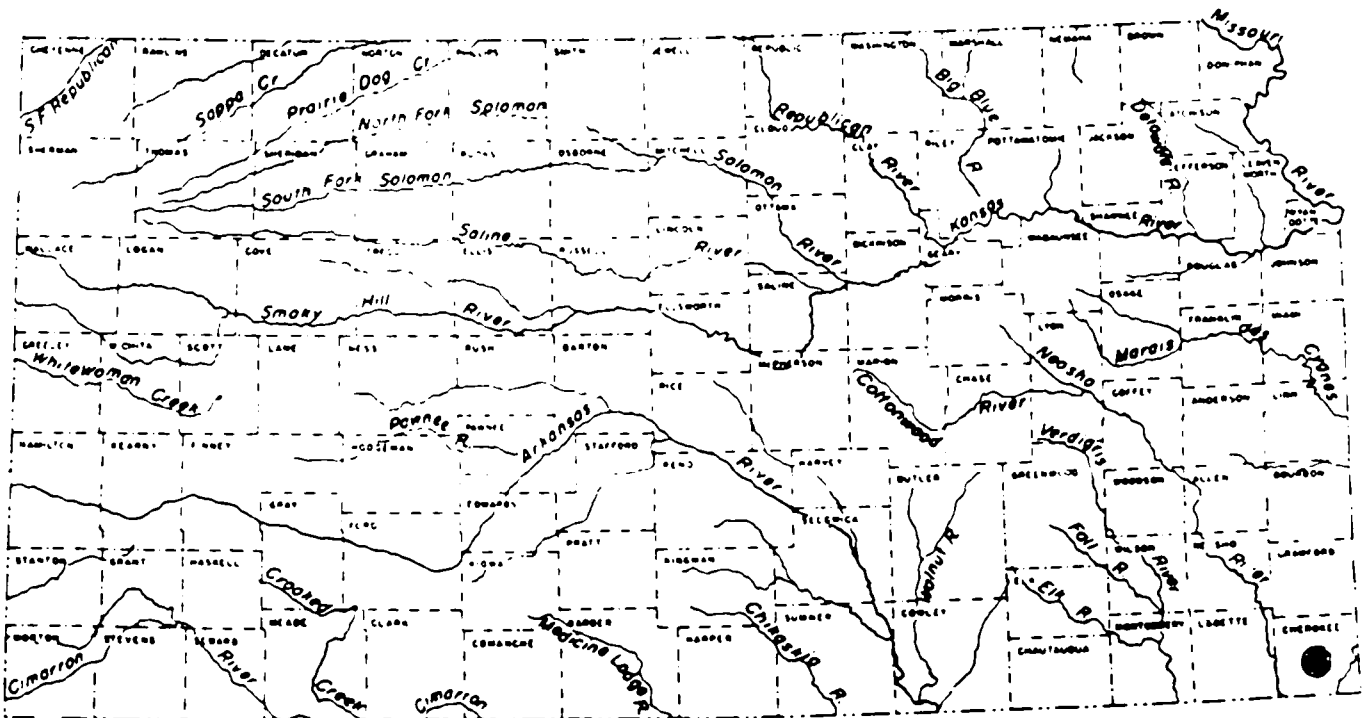
GROTTO SALAMANDER

Typhlotriton spelaeus Stejneger

Status: Endangered in Kansas

Grotto Salamanders are 3-5 inches long and have a brownish purple to pinkish white body color. Adults are blind and are found only in cave interiors. Larvae of this species have functional eyes and live in streams or spring flows near cave openings.

The only known Kansas populations of Grotto Salamanders are found in the Ozark Plateau region of Cherokee County.



- = Counties wherein Grotto Salamanders may occur in suitable habitat.
- = Counties containing designated critical habitat for Grotto Salamanders.

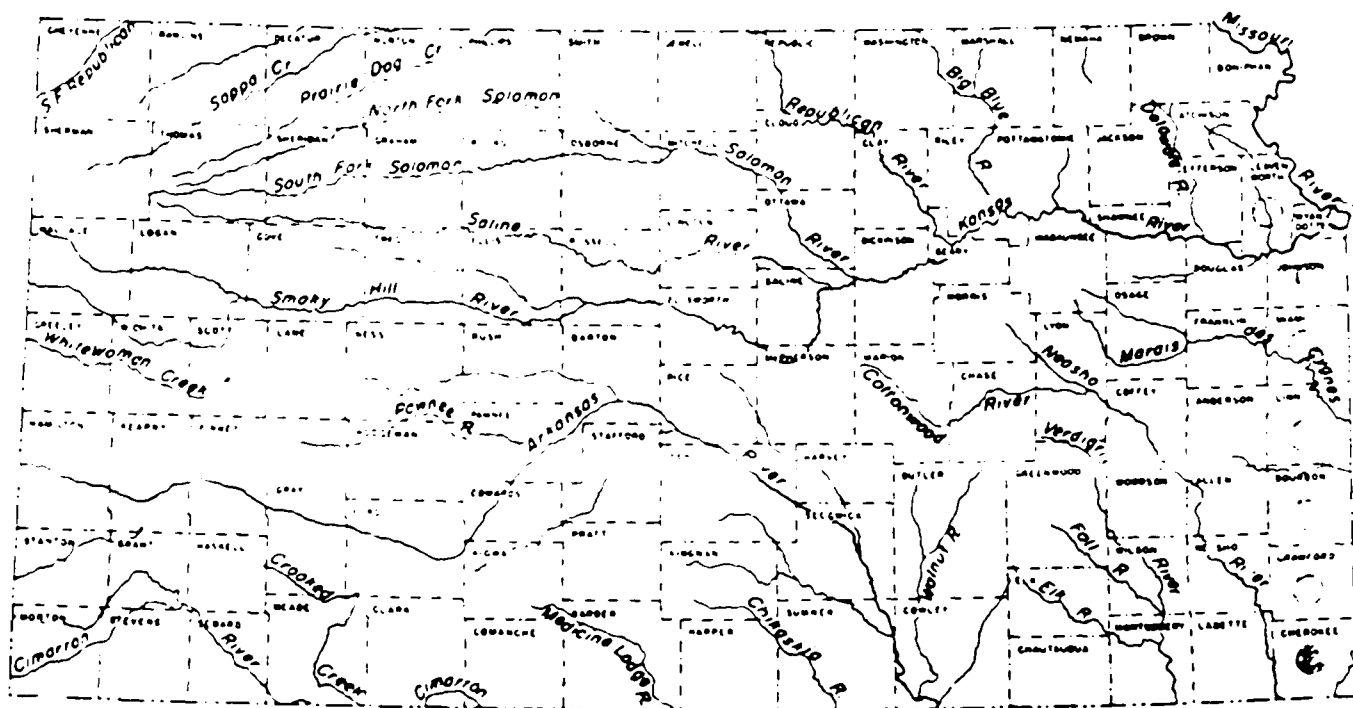
NORTHERN SPRING PEEPER

Hyla crucifer crucifer Wied

Status: Threatened in Kansas

The Northern Spring Peeper is a small ($3/4 - 1\ 1/4$ in.) tree frog. The head, body and limbs are light brown in background color and the underside is yellowish. A characteristic dark x-shaped mark is evident on the back.

Kansas is at the eastern edge of this frog's continental range. Its current probable distribution within the state is restricted to the eastern tier of counties. The Spring Peeper requires small ponds and wetlands having abundant emergent aquatic vegetation and located within or very near woodlands. This frog was formerly reported from Leavenworth County but drainage and clearing of woodland wetlands has drastically reduced its preferred habitat.



○ = Counties wherein N. Spring Peepers may occur in suitable habitat.

● = Counties containing designated critical habitat for N. Spring Peepers.

THREATENED (T) AND ENDANGERED (E) WILDLIFE SPECIES

Cherokee County

<u>Species</u>	<u>Status</u>	<u>Occurrence in County</u>	<u>Critical Habitat Designated</u>
Arkansas Darter	T	Occurs in Spring River tributaries	Yes
Bald Eagle	E	Occurs occasionally in winter	No
Broadhead Skink	T	Occurs in suitable habitat	No
Cave Salamander	E	Occurs in suitable habitat	Yes
Central Newt	T	Occurs in suitable habitat	Yes
Dark-sided Salamander	T	Occurs in suitable habitat	Yes
E. Hognose Snake	T	May occur in suitable habitat	No
E. Narrowmouth Toad	T	Occurs in suitable habitat	Yes
E. Spotted Skunk	T	May occur in suitable habitat	No
Eskimo Curlew	E	Former spring migrant-no records since 1900	No
Gray Myotis	E	May occur in suitable habitat	Yes
Graybelly Salamander	E	Occurs in suitable habitat	Yes
Green Frog	T	Occurs in suitable habitat	Yes
Grotto Salamander	E	Occurs in suitable habitat	Yes
Heel-splitter Mussel	E	May occur in suitable habitat	No
Least Tern	E	May occur occasionally in summer	No
Neosho Madtom	T	Occurs in Neosho and Spring Rivers	Yes
N. Crawfish Frog	T	Occurs in suitable habitat	Y
N. Redbelly Snake	T	May occur in suitable habitat	No
N. Spring Peeper	T	Occurs in suitable habitat	Yes
Peregrine Falcon	E	May occur occasionally in winter	No
Piping Plover	T	May occur occasionally, spring and fall	No
Redspot Chub	T	Occurs in Spring River tributaries	Yes
Snowy Plover	T	May occur occasionally, spring and summer	No
White-faced Ibis	T	May occur occasionally, spring thru fall	No

Cheyenne County

<u>Species</u>	<u>Status</u>	<u>Occurrence in County</u>	<u>Critical Habitat Designated</u>
Bald Eagle	E	Occurs occasionally in winter	No
Black-footed Ferret	E	May occur in suitable habitat	No
E. Spotted Skunk	T	Has been recorded in suitable habitat	No
Flathead Chub	T	May occur occasionally in S. Frk. Republican R.	No
Peregrine Falcon	E	May occur occasionally in winter	No
Piping Plover	T	May occur occasionally in winter	No
Snowy Plover	T	May occur occasionally, spring and summer	No
White-faced Ibis	T	Occurs occasionally, spring and summer	No
Whooping Crane	E	May occur occasionally, spring and fall	No